

FASTENER ASSEMBLY WITH WAVE SPRING

Abstract

A fastener assembly that acoustically decouples a workpiece from direct contact with a supporting structure includes a threaded fastener having a head portion and a shaft portion, a retention sleeve disposed about the threaded fastener, and a wave spring disposed about the retention sleeve. When used to secure a valve cover to an engine cylinder head, the fastener assembly acoustically decouples the valve cover from the engine cylinder head. As a result, engine structural noise, vibration and harshness (NVH) is reduced.